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NPIC/TSG-068/70

5 NOV 1970

MEMORANDUM FOR: Director, National Photographic  
Interpretation Center

SUBJECT : Request for Approval of Funds for a Contract  
with [ ] for Color Technology  
Implementation at a Cost of [ ] from  
FY-1971 R&D Funds

25X1  
25X1

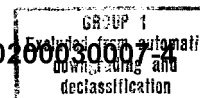
1. This memorandum requests approval for the commitment of R&D Funds for an NPIC contract. The specific request is stated in paragraph 8.

2. The many problems associated with the introduction of high resolution, color reconnaissance photography require the Exploratory Laboratory to retain outside technical services in support of in-house activities. The expertise and equipment provided by a contractor significantly increases the Laboratory's ability to react to highly specialized problems in color specification and color photography. These problems are unique, usually nonrecurring, and often cannot be handled by the Laboratory's available staff and equipment facilities. As a consequence, it has proven cost-effective to contract for such specialized short-term skills and equipment rather than purchasing instruments and hiring personnel. An additional benefit is the demonstrated increase in the capabilities of NPIC technical personnel through association with the experts made available under such contracts.

3. The proposed program will involve laboratory services and consultation on color photography and in formulating color specifications. These services include: (1) program and equipment evaluations, (2) feasibility studies of new concepts, and (3) implementation of concepts already introduced. Services will be provided on a "level-of-effort" basis against tasks such as those described below:

a. The problem of specifying film image color, as an aid to the photointerpreter, is an example of planned activity. The Color Gamut concept of color specification allows densitometers to be used to specify film image color. The usual mode of color specification is through

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the use of specialized devices such as colorimeters and spectrophotometers; these devices are not designed to measure small areas on large format imagery such as reconnaissance photography. The Color Gamut approach, tested for feasibility under the previous contract, must now be statistically validated as to its precision and repeatability.

b. The evaluation of color duplication films, such as SO-360 is another planned activity. The present application of the Color Gamut is based upon the use of SO-242--an acquisition film. This evaluation must now be repeated with SO-360 as this material is the principal color duplication film used for interpretation. It has different dyes; as a consequence, we must now develop a Color Gamut for this material.

c. Other anticipated activities will support an in-house study on the dye stability of color films, an analytical density printing technique, and evaluation problems related to color specifications.

4. Due to the exploratory nature of the work to be accomplished, the contractor will be required to submit short work statements describing objectives, costs, time schedules, and deliverable items. Each task will then be separately approved and controlled by the project officer. The first known task will consist of the statistical validation of the Color Gamut concept: this involves generating analytical color samples and comparing their colorimetric values by two different measurement approaches. This task will absorb approximately twenty-five percent of the 2000 man-hours obligated under the contract; the total effort will be conducted over a period of one year. This contract relates to the R&D program in the area of Reproduction Materials and Processes; the major activities will be in support of NPIC Color Standards. The technical risk is low.

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5. The recommended contractor, [ ], has  
provided similar support services over the last five years.  
Under the previous contract, the contractor provided support  
in these areas: equipment evaluation, color enhancement of  
false color film, and the validation of the Color Gamut  
measurement technique. This organization has clearly  
demonstrated both the necessary laboratory precision and the  
research capabilities required in a services contract such  
as this. 25X1

6. Successful completion of this contract could result  
in a request to continue this program in FY-72 at a level of  
effort of [ ]. Operational implementation of any of the  
tasks performed, such as automating the Color Gamut measurement  
technique, may result in a separate project request to be  
justified on its own merits. 25X1

7. [ ], will be project  
officer for this contract. [ ] is appropriate  
for this work; the Project Officer will assign appropriate  
security classifications to the reports. 25X1

8. It is requested that approval be granted for negotiations  
with [ ] for a contract to conduct  
the program described at a cost not to exceed [ ] from  
Category V, FY 1971 R&D Funds. 25X1  
25X1

[ ]  
Chief, Technical Services Group,  
NPIC

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Attachments:

1. Proposal
2. Form 2420



APPROVED:

ARTHUR C. LUNDAHL  
Director

22 NOV 1970  
Date

National Photographic Interpretation Center

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